

Updated species list for St Kilda

Chilopoda (centipedes)

Lithobius forficatus (Linn.). Hirta (Evans, 1906; Waterston, 1981); Boreray (Duncan, *et al.*, 1981); Village Bay, Hirta, on sea wall and in quarry, EGH & JR, 1-8.viii.2006.

Lithobius borealis Meinert. One male, An Lag, Hirta, in leaf-litter under heather; one male in thrift tussock, Glen Bay, EGH & JR, 1-8.viii.2006.

Lithobius melanops Newport. One male, An Lag, in leaf-litter under heather, EGH & JR, 1-8.viii.2006.

Lamyctes fulvicornis Meinert. Three females, quarry, EGH & JR, 1-8.viii.2006.

Geophilus easoni Arthur *et al.* One female in quarry, EGH & JR, 1-8.viii.2006; '*Geophilus carpophagus*', recorded on Hirta by Evans (1906), record repeated in Waterston (1981), was probably the species now known as *G. easoni*, but the true *G. carpophagus* has been recorded on sea cliffs elsewhere in Scotland.

Brachygeophilus truncorum (Bergsöe & Meinert). One male, An Lag, in leaf-litter under heather, EGH & JR, 1-8.viii.2006.

Diplopoda (millipedes)

Cylindroiulus latestriatus (Curtis). Glen Bay, in thrift tussocks and on Oiseval, EGH & JR, 1-8.viii.2006.

Iulus britannicus Verh., recorded by Evans (1906) and record repeated in Waterston (1981), is probably a mis-identification for *C. latestriatus*.

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Bream (*Abramis brama*), a new fish species confirmed in Loch Lomond

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Loch Lomond is of national importance. Its range of habitats, diversity of species and rare populations of powan (*Coregonus lavaretus*) and freshwater feeding river lampreys (*Lampetra fluviatilis*) warrant high conservation status (Lyle & Maitland, 1994; Maitland *et al.*, 2000). It is also of value for tourism, including sport fisheries for migratory trout (*Salmo trutta*), salmon (*Salmo salar*) and pike (*Esox lucius*), bringing money to the area.

Historical records demonstrate that the species composition of the fish community has remained stable over a very long period, until recently, when a series of introductions of fish species new to the catchment has resulted in successful colonisation by a number of species (Maitland, 1972; Adams, 1994; Maitland *et al.*, 2000). Invasive species currently found in Loch Lomond include dace (*Leuciscus leuciscus*), chub (*Leuciscus cephalus*) (Adams *et al.*, 1990), crucian carp (*Carassius carassius*) (Adams & Mitchell, 1992), gudgeon (*Gobio gobio*) (Maitland *et al.*, 2000) and ruffe (*Gymnocephalus cernuus*) (Winfield *et al.*, 1996; Adams & Maitland, 1998). Invasive species can result in fundamental changes in the ecosystem; in Loch Lomond changes have occurred in prey taken by predatory species such as pike (Adams, 1991), heron (*Ardea cinerea*) (Adams & Mitchell, 1995) and otters (*Lutra lutra*) (McCafferty, 2005). Once an invasive fish species has colonised a large lake like Loch Lomond, it is essentially impossible to remove.

On the 17th January 2006 during a gill netting survey, a single bream (*Abramis brama*) was caught in the south-west of Loch Lomond near the entrance to the River Fruin (NS 364 855). The bream was 472 mm fork length and weighed 1693.4g. Scale reading indicated that the fish was 9 years old.

Bream has never been confirmed within Loch Lomond although its presence has been strongly suspected. There has been a report of a specimen caught in the River Endrick (Maitland *et al.*, 2000), and a report of a roach (*Rutilus rutilus*) X bream hybrid (Adams & Maitland, 1991). It is unknown whether this fish had been a lifelong resident in Loch Lomond, or whether it was introduced as an adult to either the loch or a tributary. The capture of this new invasive species in Loch Lomond highlights the problems with unchecked

unregulated species movements in Scotland. However, it is hoped that recent legislation by the Scottish parliament, the Aquaculture and Fisheries (Scotland) Bill 2007 (Scottish Parliament, 2007), will prevent, or at least reduce, the number of such movements. In future, it will be illegal in Scotland to move any species of fish from one water body to another without a licence. The use of fish as live bait is prohibited, which is believed to be one of the main ways in which alien fish species, such as ruffe, became established in Scottish waters.

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Large shark species in northern Scottish waters

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On 15 July 2003 I was fishing for codling off the east Caithness coast near my home-port of Lybster. With nets already deployed in a calm sea, as I approached them I could see two fins above the surface, well apart and some disturbance in the water. Thinking two dolphins had maybe become entangled, I quickly tried to approach the net and release the animals. To my surprise the net contained a large species of shark and the fins represented the dorsal fin and the tail tip, which had a notch to it. The upheaval went on for perhaps three or four minutes, before the shark set off in a south-westerly direction for about 200 meters, dragging the net and boat backwards, but it rapidly appeared to tire. It was still struggling, but soon became much more subdued. The shark was well entangled and had presumably gone for a fish that was also in the net at the same time. At first I thought it was probably a Basking Shark *Cetorhinus maximus*, with which I am very familiar, having fished these waters most of my life. I estimated the fish to be at minimum the length of my small boat, which is around 5.5 meters (18 feet). I was able to haul up about 2/3 of the net, cutting it when I got too close. Then the shark started to slowly go down, (I had a rope attached to the net). Water depth would be about approximately 30 metres (90 feet) at that point.

When it reached the bottom, it appeared to lie there so I decided to try towing the net to see if it would free itself. I did make headway although was sometimes stopped and pulled astern. It was a tow of perhaps 300 meters to the nearby cliff face and there I dropped an anchor and buoy in about 15 metres (45feet) of water. The shark was still totally submerged as it was all during the tow.

I returned to Lybster to consider what had to be done and on the way back met Dod Bremner, a friend who readily volunteered to help me free the creature and recover my net.

On return to the spot off the cliffs the shark was now back on the surface – gills and dorsal plainly visible and quite placid – in fact showing little sign of life. I took my new digital camera to photograph the shark and managed just one shot as Dod was at the net. (Fig. 1). Suddenly there was an explosion of movement and the shark very rapidly shot away from the boat, free of the net.